

South Mesa

Boundaries:

The site is bounded approximately by 10th Drive to the north, Stapley to the east, and the railroad south of Baseline to the south and west.

Site History:

- The original South Mesa Water Quality Assurance Revolving Fund (WQARF) investigation was prompted by the 1983 discovery of volatile organic compounds (VOCs) in two irrigation wells owned and operated by the Salt River Project (SRP), identified as wells 28E-0N and 28.5E-1N.
- In 1987, the South Mesa WQARF study area was established and ADEQ began to investigate the nature and extent of the contamination identified in the SRP wells. The original Phase I project area encompassed twenty square miles and was completed November 1989. The study area was reduced to nine square miles for the Phase II investigation.
- Phase II of the South Mesa site investigation began in January 1990 and included the installation and sampling of nine groundwater monitoring wells in 1991 and additional facility investigations. One source of groundwater contamination was identified at a property located at 1545 North McQueen Road in Gilbert (the former Applied Metallica facility).
- Applied Metallica leased the property from 1979 to 1990 and operated a facility that produced metal plated electronic parts. Parts were plated with tin, copper, chromium, nickel and zinc. Chlorinated solvents were also used to clean and degrease parts prior to plating. Applied Metallica used a chemical called *Perclene*, which contained 99 percent tetrachloroethene (PCE).
- ADEQ entered into an intergovernmental agreement with SRP in 1991 for SRP to design and construct a wellhead treatment system for impacted well 28E-0N. This interim remedial action (IRA) included packed column aeration (air stripping) of groundwater to remove VOCs (primarily PCE) from the groundwater with treatment of air emissions from the system. The treated water was piped to the SRP irrigation system, ultimately being discharged to the Western Canal. The IRA began operation in May 1994 and was shut down in October 1996 when the concentrations of VOCs in groundwater were reduced to the applicable discharge standards. The wellhead treatment system decreased influent PCE concentrations from more than 350 micrograms per liter (µg/l) PCE to 11 µg/l PCE.
- Due to PCE soil contamination found at the former Applied Metallica site, remedial action was taken at the site beginning in 1995. A soil vapor extraction (SVE) and air emissions treatment system began in operation in June 1995 and was modified to include

two additional SVE wells in June 1996. The system was shut down in 1997 due to declining concentrations of VOCs in the extracted air.

- The site was placed on the WQARF Registry in August 1998 with an eligibility and evaluation (E&E) score of 26 out of a possible 120. The size of the South Mesa site was decreased to its current size as defined above under the Boundaries section.
- In 2001 and 2002, additional investigations were conducted to define the extent of soil and groundwater contamination for the site. These investigations included the drilling of additional soil borings and the installation of three nested monitor wells on the former Applied Metallics facility.

Site Status:

- The draft Remedial Investigation (RI) Report for the site is expected to be issued for public comment by April 2004.

Site Hydrogeology:

- The South Mesa site is located within the East Salt River Valley Sub-basin of the Salt River basin. The basin is in a broad alluvial filled valley overlying crystalline and extrusive rock. The sedimentary deposits are divided into three stratigraphic units: the Upper Unit, Middle Unit, and the Lower Unit. These units consist of primarily unconsolidated to semi-consolidated deposits of gravels, sands, silts, and clays. The Middle Unit is the principal water bearing unit in the South Mesa area.
- Depth to groundwater ranges from 110 to 130 feet below land surface. Groundwater flow direction in the upper aquifer is generally to the north-northeast.

Contaminants:

The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Contaminants of concern at the site may change as new data become available. Other contaminants at the site include regionally high levels of nitrates due to past agricultural land use.

Public Health Impact:

No drinking water wells are threatened by this contamination plume. The nearest drinking water well is approximately one-quarter mile from the downgradient plume edge and is screened in the Middle Alluvial Unit. As part of the IRA for the impacted SRP well, a preliminary risk assessment was conducted for potential routes for human exposure to contaminants in irrigation wells including dermal adsorption by children playing in the water, dermal adsorption by adults contacting the water, and inhalation of water during play. Based on this risk assessment, the levels currently detected in the SRP wells are protective for irrigation use.

Community Involvement Activities:

A community advisory board (CAB) has been formed for the site and meets on a regular basis. These meetings are open to the public. The CAB meeting agendas and minutes can be viewed at <http://www.adeq.az.us/environ/waste/sps/reg.html>.

Information Repository:

Interested parties can review site information at the information repository at the Mesa Public Library located at 64 E. 1st Street, Mesa Room, in Mesa (480) 644-3100. Site information is also available for review at the ADEQ main office located at 1110 West Washington Street, Phoenix. Site information is available for review Monday through Friday from 8 a.m. to 5 p.m. To arrange for a time to review the public site file, please call the ADEQ Records Center (602) 771-4378 or (800) 234-5677 (Arizona toll free).

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*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.